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Building Confidence in Liquidity Management: Understanding the Fed Toolkit

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In reaction to the global financial crisis and the current pandemic, the Federal Reserve has developed new, more resilient frameworks in approaching monetary policy to maintain strength in the U.S. economy. This includes adjustments to policy instruments, markets impacted, and their balance sheet. In this session, we will discuss how the Fed has applied these new policy tools, including a perspective on their effectiveness.

Learning objectives

- Understanding the Fed toolkit: monetary policy vs. reserve management with an overview of the Fed's liquidity and credit facilities
- Cash with conviction – understanding of the importance of what the Fed says in making cash management choices with confidence

Speakers

- **Laurie Brignac** is Chief Investment Officer and Head of Invesco's Global Liquidity team. In this role, she is responsible for providing senior management oversight of Invesco's liquidity products in the US, EMEA (Europe, the Middle East, and Africa), and Asia Pacific regions.
- **Alex Roever** is the Head of US Interest Rate Strategy for J.P. Morgan Securities LLC, the institutional dealer arm of JPMorgan Chase & Co. Alex's team covers US treasury and agency markets, as well as rate-based futures, swaps and derivatives. He also leads the Short Duration Strategy team, focusing on US money markets. Additionally, he coordinates research on the market impacts of financial regulation.
- **Julia Lebedeva** is a Treasury Director for Investments, FX and Operations and Interim Assistant Treasurer for Cash, Investments and Capital markets at Intel Corporation. Julia joined Intel in 2006 and subsequently held various positions within Intel's treasury organization covering variety of FX, Fixed Income, Cash management, Retirement Investments, Capital markets, Operation and Controls activities.

The Fed's toolkit has expanded beyond Fed Funds

Pre 2008 Financial Crisis

Open Market Operations (OMO)

Permanent ("POMO")
- Outright purchase or sale of securities, generally treasuries or agency mortgage backed securities

Temporary ("TOMO")
- Repurchase agreements (repos) add liquidity into the market as the Fed lends cash in exchange for securities on an overnight or term basis
- Reverse repos remove liquidity from the market as the Fed borrows cash in exchange for securities on an overnight or term basis

Post 2008 Financial Crisis

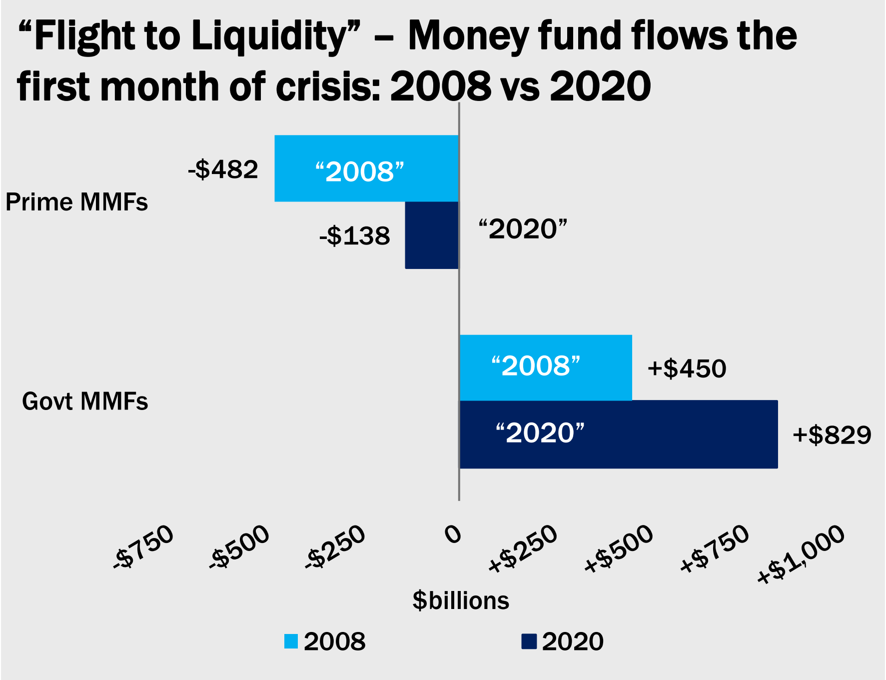
New Tools & Policies

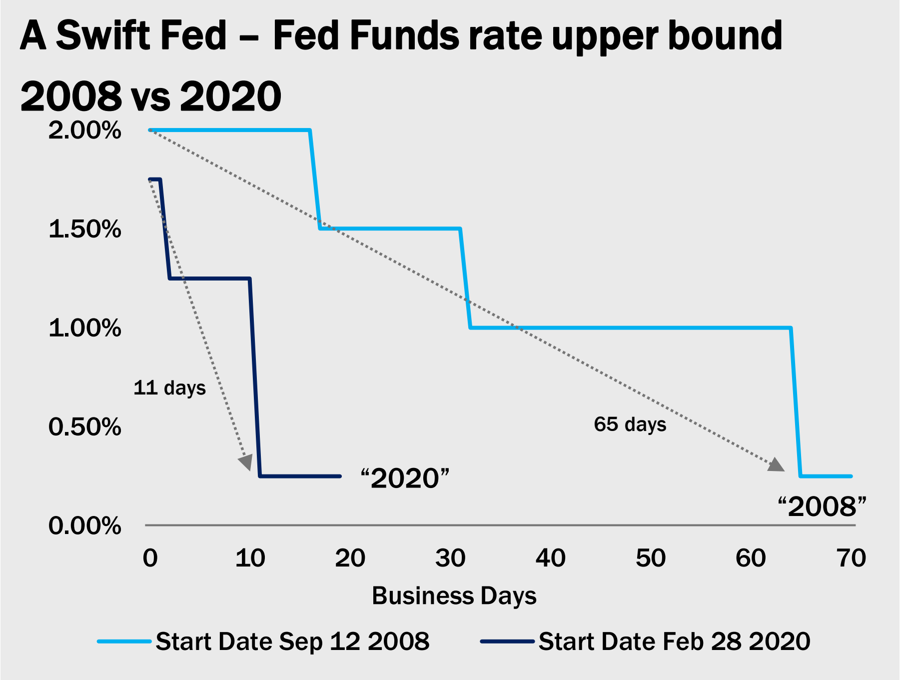
Interest on Excess Reserves
- The Fed began paying interest on excess reserves in October 2008

Reverse Repo Facility
- Expanded counterparties from primary broker dealers to include:
  - State, federally chartered banks or savings associations
  - Government sponsored enterprises
  - SEC registered 2a-7 money market funds

Explicit Forward Guidance
- The Fed began using forward guidance and increased transparency to reduce uncertainty in the market

Was the toolkit enough for 2020 Covid market disruption? The Fed had a playbook and acted quickly





Source: iMoneyNet, Inc. (daily data); Bloomberg L.P. As of July 31 2020. Past Performance is not a guarantee of future results.

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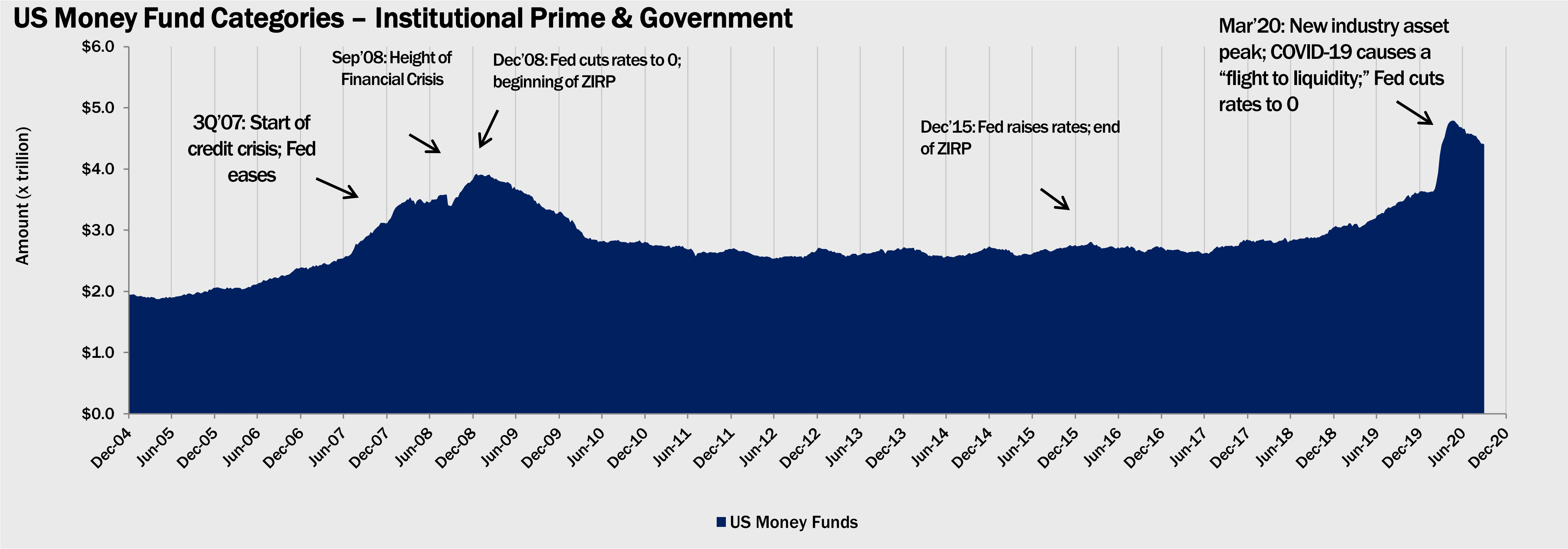
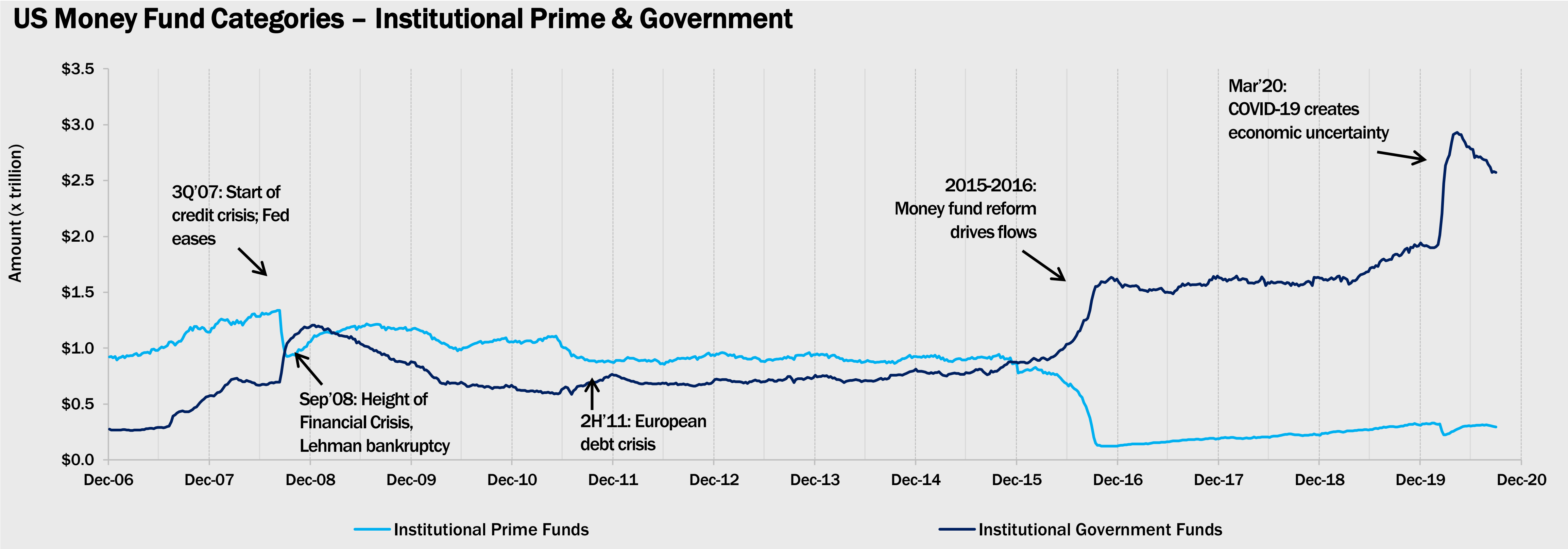
Investors moved swiftly into money market funds as companies and individuals wanted more cash on hand



Source: Bloomberg L.P.; ICI – Category Data; Weekly data Dec 27, 1989 to Sep 30, 2020.

Investors preferred government money funds to prime as concerns increased about potential fees and gates



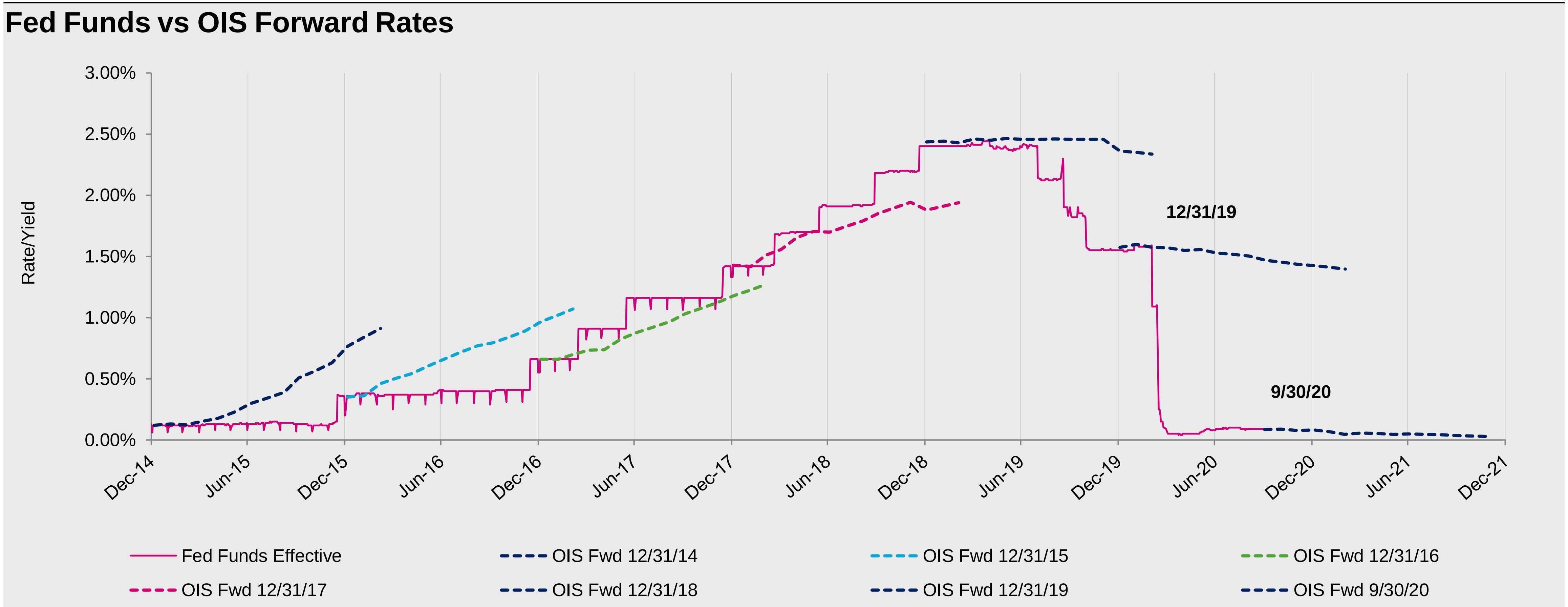
Source: Bloomberg L.P.; ICI – Category Data; Weekly data Jan 3, 2007 to Sep 30, 2020.

In the end, the Fed dusted off it’s old playbook and had to create new facilities reaching new markets

Facility	Purpose	Description	Date Announced
Commercial Paper Funding Facility (CPFF)	Credit	Funding backstop to facilitate the issuance of term commercial paper	March 17
Primary Dealer Credit Facility (PDCF)	Funding / Liquidity	Collateralized term funding for primary dealers	March 17
Money Market Liquidity Facility (MMLF)	Credit	Provide relief and liquidity to prime MMFs	March 19
Primary Market Corporate Credit Facility (PMCCF)	Credit	Fed SPV, which purchases qualifying bonds directly from eligible issuers	March 23
Secondary Market Corporate Credit Facility (SMCCF)	Credit	Fed SPV that will purchase eligible individual corporate bonds/portfolios in the form of ETFs in the secondary market	March 23
Term Asset-Backed Securities Loan Facility (TALF)	Credit	Credit facility intended to facilitate the issuance of ABS collateralized by loans on or before Mar 23	March 23
FIMA Repo Facility	Funding / Liquidity	Temporary repo facility for foreign and international monetary authorities, exchanging Treasuries for US dollars	March 31
Paycheck Protection Program Lending Facility (PPPLF)	Funding / Liquidity	The Fed will make non-recourse loans to depository institutions using PPP loans as collateral	April 9
Municipal Liquidity Facility (MLF)	Credit	Lending via SPV purchase of short-term notes directly from eligible US states, counties, and cities.	April 9
Main Street Lending Program (MSLP)	Credit	Facilitate lending to both small, medium-sized businesses and nonprofit organizations	April 9

Source: Goldman Sachs, BofA Global Research, Federal Reserve. As of July 31, 2020.

Where are we going from here?



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Expect negative real rates, but not REALLY negative rates. Money markets are hemmed in by policy.

Monetary policy:

- **Policy rate outlook:** FOMC has policy rate target range ***on hold for foreseeable future***. Fed focus remains ***low policy rates***, ***balance sheet tools***, and ***forward guidance consistent with the new framework***. Operational review ties next hike to core PCE breaching 2%, and subsequent tightening to average > 2%. ***Employment data loom larger***. How much will U-6 matter? Powell has emphasized Negative Interest Rate Policy (NIRP) is highly unlikely given structure of US banking/MMFs.
- **Fed's balance sheet has stalled around $7tn +/- for now. Improved market conditions reduce lending program demand**
  Theme 1) *Lending not spending.* Fed has backstopped markets, with limited program use. Program expirations approaching and depending on who is running Treasury next year, programs / terms could become less favorable.
  Theme 2) *Support market function.* TOMOs, POMOs, central bank swaps, and targeted programs have all supported market function. Use of these programs has declined. Asset purchases likely to continue indefinitely.
  Theme 3) *Governance:* Fed leadership likely stable into 2022. Supervisory and regulatory changes for banks are supportive for now, maybe less following elections.

Fiscal policy:

- **Treasury finance remains a wildcard. 1)** UST market structure in balance because of Fed intervention and money markets. Marketable UST +$4tn yoy. Fed +$2.3tn. Bills +$2.7tn. **2)** Federal govt now funded through Dec 11**; 3)** Further fiscal stimulus looking unlikely before election; **4)** Funding shift to coupons vs bills unlikely before further stimulus (no fidgeting!).

Regulatory policy:

- **MMF/Ultrashort/Short term: 1)** Prime MMF AUM on slow decline while Govt remains high. **2)** More MMF reforms ahead. **3)** US/ST funds see surge in demand after Fed intervened in credit markets.
- **Libor sunset on track.** SOFR and alternatives evolving. "Big Bang" on track; Term SOFR on the way; Credit sensitive benchmarks have interest but unlikely to be fully functional with widespread market support before Libor sunset.

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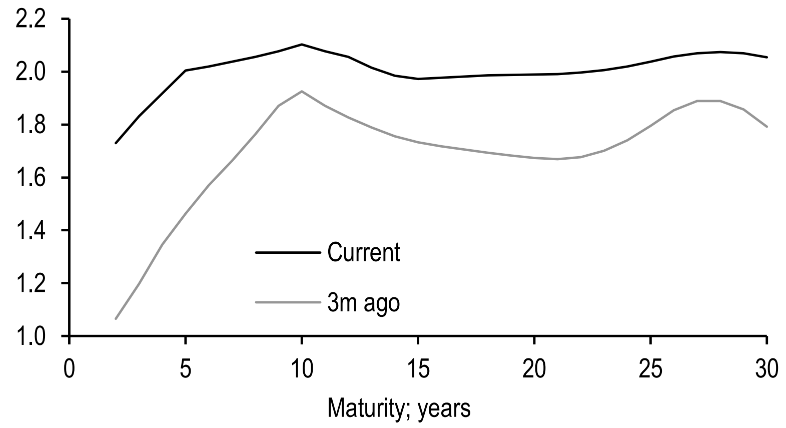
The Fed's FAIT: Lower for even longer?

- The Fed's framework review embraced Flexible Average Inflation Targeting (FAIT)
  - After periods when interest rates are stuck near zero, the Fed will encourage inflation overshoots
- The review pushes back the finish line
  - Higher inflation, and quite likely lower unemployment, will be required before the Fed will begin to raise interest rates
  - The Fed's toolkit has not changed
- The Fed has shown little urgency to do more in the near term
- Separately, officials highlight aversion to negative policy rates. Soft-floor at zero as long as claim remains credible.

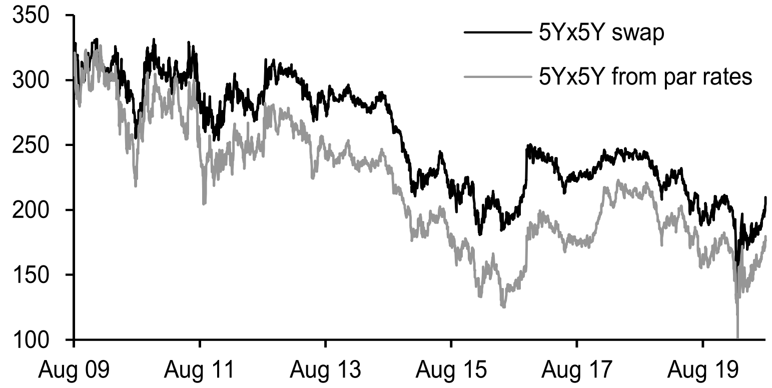
The inflation swap forward curve has lifted and flattened but still is not fully priced for a return to the Fed's 2% inflation target, or a temporary overshoot…

1Y CPI inflation swap forward rates; current and 3m ago*; %



…and 5Yx5Y breakevens remain low by historical standards

5Y5Y inflation swap rate versus 5Y5Y breakeven rate derived from our par real and nominal yield curves (akin to the Fed's 5Y5Y measure); bp



Source for both charts: J.P. Morgan
* as of 8/27/20

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What about the Fed's balance sheet? Larger for longer?

- The Fed balance sheet has steadied at about \$7.1tn, up \$2.8tn since YE19
- POMOs continue, ~\$6.3tn securities (\$4.4tn UST, ~\$1.9tn MBS)
- TOMOs now largely unused
- Reserves + \$1.3tn YTD to \$2.9tn (peak ~\$3.3tn, May)
- Treasury General Acct + \$1.2tn YTD to \$1.7tn (peak \$1.8tn, July)

- Questions:
  - How long will market-focused programs persist?
  - What are the US G-SIB implications of more reserves? Might there be changes to bank regulation to support more reserves?
  - What is the role of the balance sheet in the new operating framework?
  - More PPP or MSLF type programs?

Balance sheet of the Federal Reserve (\$bn)

Assets	Mar 20	Jun 20	Current (9/16)	Chg since Feb
Treasuries	3,341	4,213	4,407	1,933
Agency debt	2	2	2	-
MBS	1,458	1,911	2,005	633
Repurchase agreements				
FIMA	-	1	-	-
Other Repo	263	60	-	(143)
Discount window loans	44	6	3	3
Payroll Protection Program Liquidity Facility	-	68	67	67
Primary Dealer Credit Facility	33	2	0	0
Money Market Liquidity Facility	53	21	7	7
Commercial Paper Funding Facility*	-	4	0	0
Corporate Credit Facility*	-	10	13	13
Main Street Lending Program*	-	-	1	1
Municipal Liquidity Facility*	-	1	2	2
TALF*	-	0	3	3
Other assets of credit program LLCs*	-	101	102	102
FX swaps	349	225	52	52
Other items	318	429	448	233
Total Assets	5,860	7,057	7,113	2,907
Liabilities and owners' equity				
Liabilities				
Currency	1,879	1,972	2,029	229
Foreign reverse repos	287	227	198	(19)
Overnight reverse repos	208	0	0	(2)
Deposits and other items				
Banks (reserves)	2,684	2,863	2,869	1,189
US Treasury	507	1,657	1,693	1,305
Foreign deposits	18	16	19	14
Other Deposits	225	162	142	73
Treasury support for lending programs	-	114	114	114
Other Liabilities & Capital	52	46	48	4
Total Liabilities and owner's equity	5,860	7,057	7,113	2,907

Source: Federal Reserve, J.P. Morgan.
Note: Balances are shown as of the weekly H.4.1 reporting date closest to the end of the month.

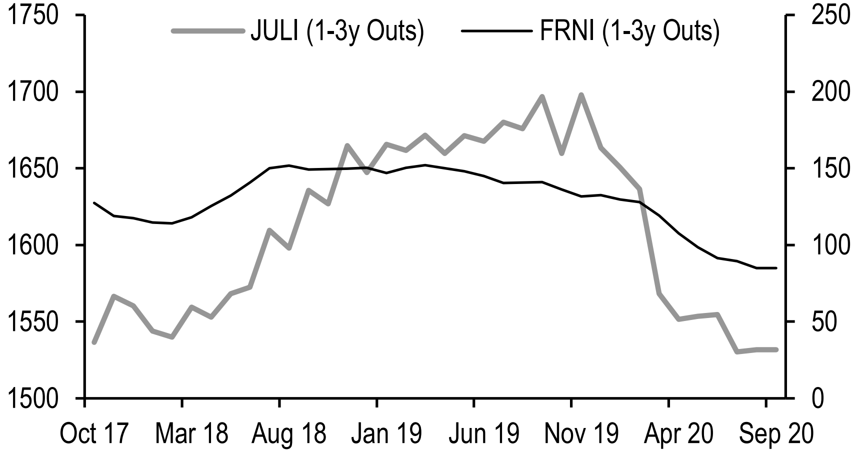
Anemic supply plagues the front-end markets

Money market supply ($bn)

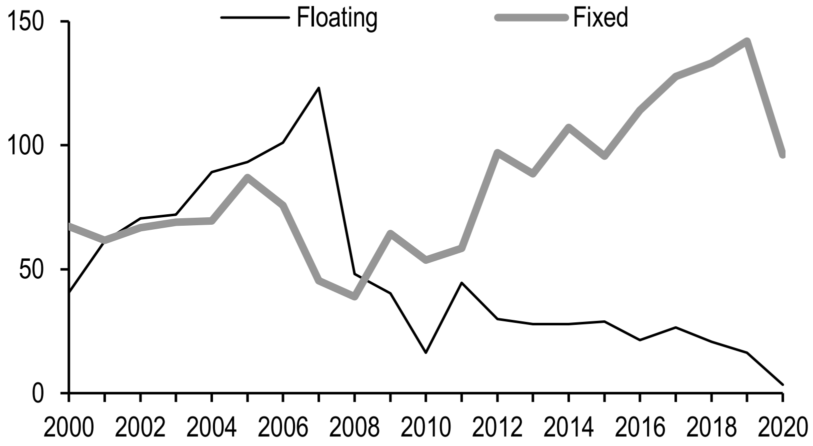
	Dec 19	Aug 20	YTD Chg	3m min	3y max	3y avg
Dealer Repo**	**2,686**	**2,499**	**(186)**	**2,062**	**2,956**	**2,400**
Treasuries	**4,789**	**7,749**	**2,959**	**3,889**	**7,505**	**4,922**
Treasury Bills*	2,247	5,077	2,830	1,802	4,754	2,538
Treasury Coupons	2,102	2,216	114	1,770	2,290	2,001
Treasury FRNs	441	456	16	317	462	383
Agencies	**1,085**	**996**	**(89)**	**812**	**1,475**	**1,086**
Agency Discos	485	361	(124)	361	694	485
Agency Coupons	200	128	(72)	111	236	191
Agency FRNs	400	507	107	340	545	410
Financials	**1,241**	**1,258**	**17**	**1,061**	**1,345**	**1,204**
Yankee CDs	704	714	11	625	722	671
Foreign Financial CP	487	506	19	403	533	469
Domestic Financial CP	51	38	(13)	33	90	65
ABCP	**255**	**243**	**(12)**	**233**	**277**	**244**
Non-Financial CP**	**295**	**223**	**(72)**	**223**	**340**	**301**
Bonds <1y	**926**	**924**	**(1)**	**786**	**988**	**880**
Total (ex-Fed)	**11,276**	**13,893**	**2,617**	**9,067**	**14,886**	**11,038**
Total (ex-Fed, ex-Treasuries)	**6,487**	**6,144**	**(343)**	**5,178**	**7,381**	**6,116**

Source: Federal Reserve, Bloomberg, J.P. Morgan
* Assumes the Fed purchases $160bn of T-bills in 2020
** Because of balance sheet fluctuations around quarter- and year-ends, this figure is based on a 4w moving average

HG Corporates Outstandings, <3y years ($bn)



ABS Gross Issuance, <3y years ($bn)



Source (for charts above): J.P. Morgan

The fiscal front: fewer bills and more coupons in 2021

We forecast $4.112tn in net Treasury issuance in 2020

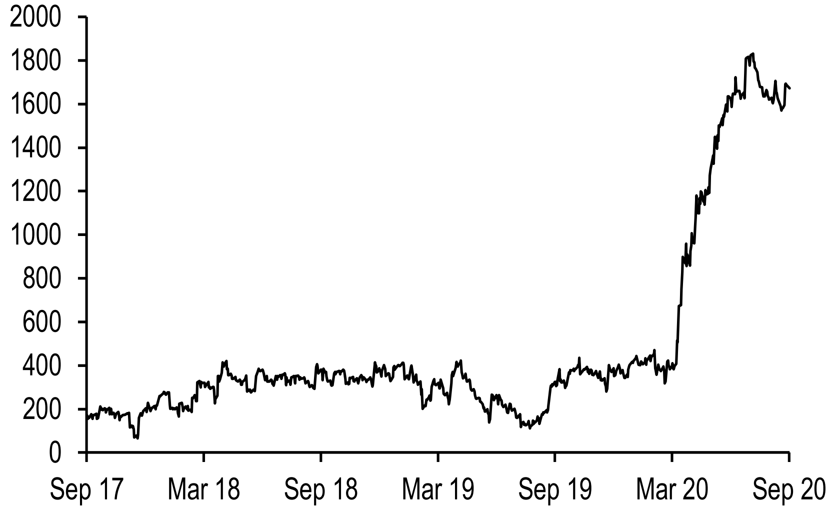
J.P. Morgan projection of net Treasury issuance to private investors, Federal Reserve purchases of Treasuries*, and expected change in Treasuries held by private investors; $bn

Year	Net privately-held borrowing		Fed secondary market purchases		Net change in privately-held debt	
	Bills	Cpns	Bills	Cpns	Bills	Cpns
2013	-36	846	0	540	-36	306
2014	-134	785	0	250	-134	535
2015	54	631	0	0	54	631
2016	305	410	0	0	305	410
2017	137	433	0	0	137	433
2018	387	989	0	0	387	989
2019	77	1133	169	77	-92	1056
2020	2415	1697	160	2210	2255	-513
2021	-1131	2397	0	960	-1131	1437

Source: J.P. Morgan US Treasury, Federal Reserve Bank of New York

The TGA balance remains $1.2tn above pre-pandemic levels, but it is unlikely to decline materially over the coming months

US Treasury General Account; $bn



Source: US Treasury

- COVID-era funding has mostly focused on T-bills. This has prompted the average Treasury debt maturity to fall to 63 months from 70 months. Fiscal 2021 will see maturity normalization. Coupons > Bills
- Open questions: Who will be the marginal buyers, how deep will demand be? Growth of HG corporates, MBS and municipals all adding to duration supply

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Closing Thoughts

1	The Fed remains proactive in providing liquidity and credit in order to limit financial stress and disruption of the flow of credit to those who need it
2	Lower for longer interest rates and a larger balance sheet seem to be a “FAIT accompli”
3	The money markets will remain quite technical as supply shrinks and demand remains high for short dated, safe liquid instruments

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